RG104 E-1 Box 167

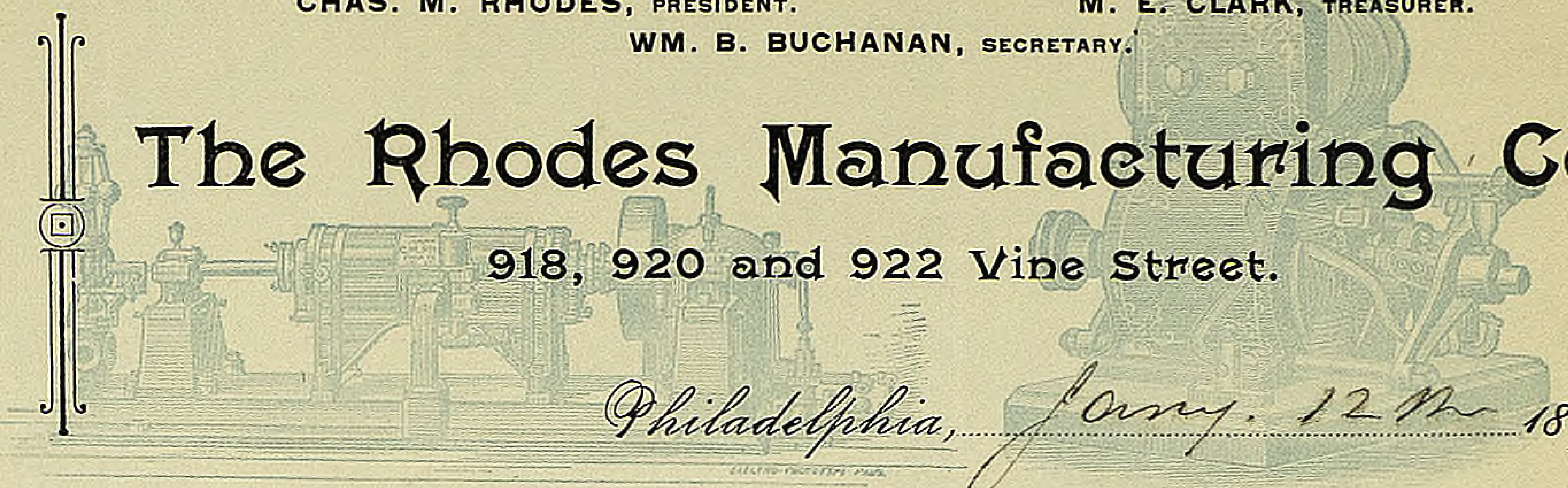
Sole Manufacturers of
THE RHODES DYNAMO,
THE RHODES ELECTRIC MOTOR,
THE LAW LIGHTNING ARRESTER,
THE CHENEY SELF-CLEANING FILTER,
THE KORTING GAS ENGINE,
THE AXIAL STEAM ENGINE.

Special attention given to
ELECTRIC WIRING IN ALL ITS BRANCHES,
PRIVATE PLANTS FOR LIGHTING,
PUMPING, ETC.

CHAS. M. RHODES, PRESIDENT. M. E. CLARK, TREASURER.
WM. B. BUCHANAN, SECRETARY.

The Rhodes Manufacturing Co.

918, 920 and 922 Vine Street.



Philadelphia, Jany. 12th 1894

Col. O C Bosbyshell

Dear Sir

Understanding you are agitating the question of cheap fuel gas for the mint. I enclose you circular of the Kitson generation. From which fuel gas can be made for 3 ct per ~~M~~ cubic feet - with Coal at 4.00 Ton. We have one here which can be put in operation any day you may wish to see it - giving me two days notice if possible so that I can have Mr. Kitson here - We can give you price of one suitable for your purpose if you will send me word how much city gas you are using to do the same amt. of work -

Very truly Yours
Chas M Rhodes

RG104 E-1 Box 167

906

Phila.

Jan. 12. 1891

Chas. M. Rhodes

Encloses Circular of the Kitson Gas Generator relative to fuel Gas.

RECEIVED
JAN 13 1891
U.S. MINT, PHILA.

RG104 E-1 Box 167

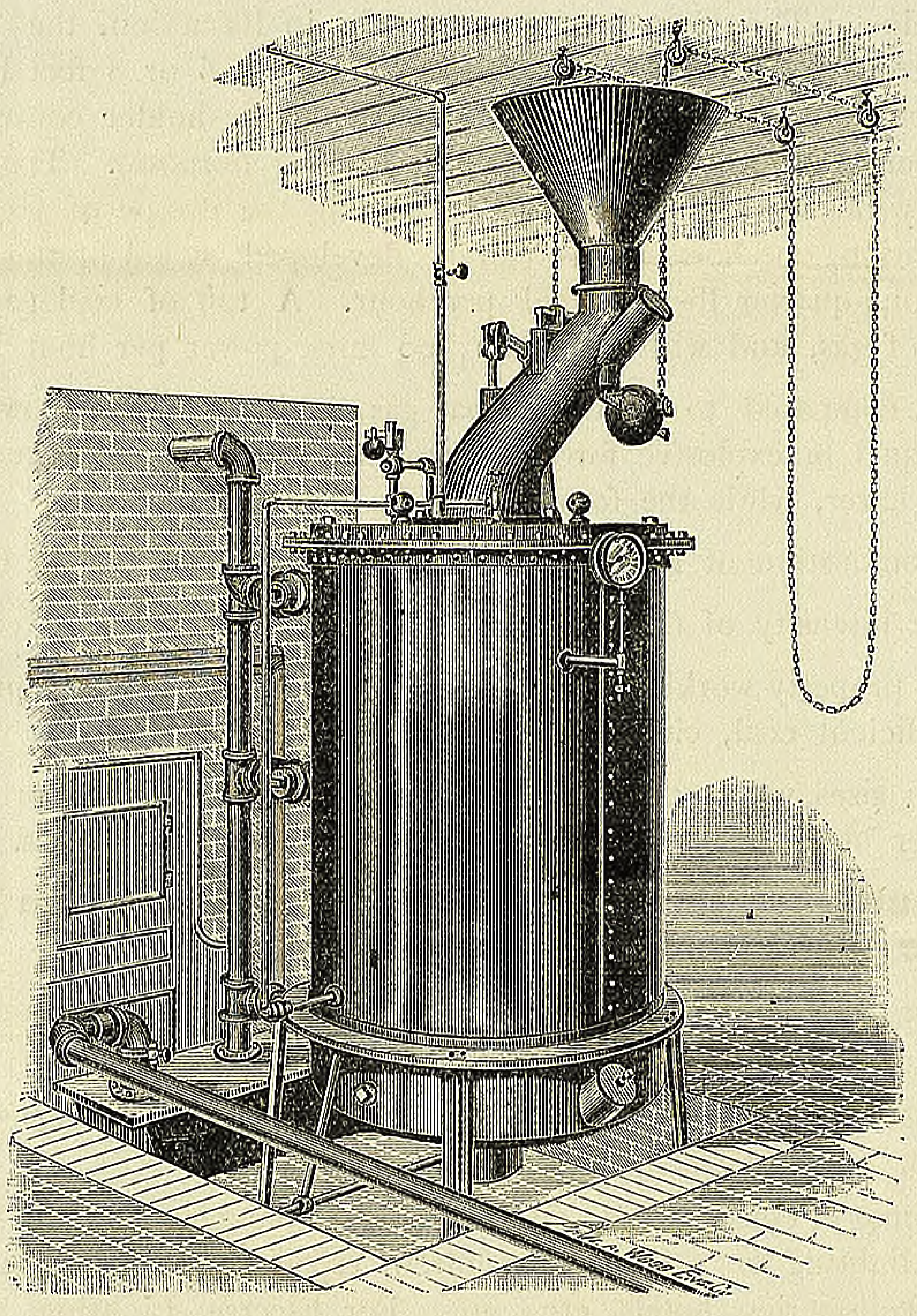
KITSON WATER GAS LAMP,
KITSON GAS GENERATOR,
KORTING GAS ENGINE.

CABLE ADDRESS,
"KITSON, PHILADELPHIA."

ARTHUR KITSON
GAS ENGINEER.

NEW YORK OFFICE,
74 CORTLANDT STREET,
NEW YORK.

ROOM 601,
PROVIDENT BUILDING,
FOURTH AND CHESTNUT STREETS.
P. O. BOX, 803,
PHILADELPHIA, PA.



KITSON'S FUEL GAS PRODUCER.

The above cut represents the Kitson Gas Producer, which has been specially designed for Factories, Workshops, Stores, Brick Yards, Lime Kilns, Electric Light Stations, and wherever a cheap fuel gas is required for heat or power.

The gas is produced by the well-known method of injecting steam and air through a body of incandescent fuel. Hard or soft coal, or coke may be used, and the furnace has been arranged for the proper and effective consumption of these varied qualities of fuel.

The action is continuous, and but little attention is required. The producer is provided with a self-feeding hopper, which supplies a certain fixed quantity of coal in each charge. Ashes are dumped without interfering with the making of the gas. In places where steam cannot be obtained, the producers are arranged to make their own steam.

The producer is neat, compact, requires comparatively little floor space, and scarcely any attention. For power, the gas engine furnishes the cheapest known agent, when used in conjunction with this gas.

The cost of the gas depends altogether on the quality and price of the coal used. One ton of Anthracite will give about 150,000 cubic feet of gas. Reckoning $4.00 as the price of the coal, this will make the gas cost about 2⅔ cents per thousand, exclusive of labor, which is merely trifling.

RG104 E-1 Box 167

PARTICULARS OF THE KITSON GAS GENERATOR.

The gas is produced by injecting a mixture of superheated steam and hot air into a furnace containing incandescent fuel. The steam and air are decomposed in presence of the fuel, forming hydrogen, carbonic oxide and nitrogen. About 7 pints of water and about 15 lbs. of coal are used in producing 1,000 cubic feet of gas. Where steam is not otherwise obtainable, the Kitson Generator is constructed to furnish its own. The water is sprayed into a coil surrounding the furnace, and is instantly converted into steam, and then superheated. Air is admitted to the injectors by being caused to travel over an extended heating surface, where it is highly heated and injected with the steam into the furnace. The process of making gas is continuous, sufficient air being taken in to promote combustion. The Generator is automatic in its action, the production of gas regulating the supply of steam and air to the furnace. A small holder (about 6 or 8 feet high and 4 feet in diameter) is used to balance the pressure, and the raising and lowering of the holder controls the admission of steam. The holder is unnecessary where the gas is simply used for heating purposes. The furnace is fed by a hopper, and coal is supplied by simply raising a lever without permitting the escape of gas. The gas can also be used in the gas engine. By calculation, one horse-power can be developed by aid of this gas in the gas engine, with the expenditure of one and one-quarter lbs. of coal per hour. A ton of coal (2,240 lbs.) will give, roughly speaking, 150,000 cubic feet of gas, and will develop 1,800 horse-power per hour in the gas engine.

The value of this gas, compared to ordinary coal gas, is in explosive power about 1 to 3; that is, 3 volumes of Kitson gas will equal in explosive force one volume of coal gas. But 224 lbs. of coal are used to make 1,000 cubic feet of the latter, while the former requires but about 15 lbs.

The air required for combustion of Kitson gas is 1½ times the volume of the gas.

The calculated calorific intensity of the gas is **4,300° F.**

The only requisites for properly working the machine are, to have a water pressure of at **least 25 lbs. per square inch,** and sufficient coal, either soft or hard.

Generators are made in sizes varying from 6 feet high, and occupying floor space of 19 square feet, and producing 1,000 cubic feet per hour, up to sizes capable of supplying large towns.

For illuminating purposes the Kitson Water Gas Lamp can be used, and a candle power of 6 to the cubic foot produced with this gas.

The composition of the gas is, approximately, hydrogen 22 per cent, carbonic oxide (Co) 38 per cent., nitrogen 40 per cent.

The heating value is between that of plain water gas and Siemen's producer gas. It can be burned in an ordinary Argand burner, or 5-foot flat-flame burner.

The Generators are simple in construction, and there is no danger attending their use. They are adapted for all places where heating, lighting or power are required, especially in brick burning, lime kilns, foundries, machine shops, bakeries, confectioneries, hotels, etc., etc. For Electric Lighting, and other purposes, this gas in combination with the gas engine, forms the most economical power yet known.

A special form is designed for use with the ordinary steam boilers, effecting a great saving in fuel and time in getting up steam.

Estimates furnished for Generators, Gas Engines, and Lamps.

PRICES.

Smallest Size, "A," to Supply	**1,000**	**feet**	**per hour**		**$**
"B,"	**"**	**2,000**	**"**	**"**	**$**
"C,"	**"**	**3,000**	**"**	**"**	**$**
"D,"	**"**	**5,000**	**"**	**"**	**$**
"E,"	**"**	**10,000**	**"**	**"**	**$**

Galvanized Iron-Holder and Tank to balance pressure, with capacity of 50 cubic feet, costs $ extra.

Producers of higher capacity than the above built to order.

ARTHUR KITSON,
74 Cortlandt St., New York,
Provident Building, 4th and Chestnut Sts., Philadelphia.

NARA RG104, Entry 1, Box 167

[Abstract:] Encloses circular of the Kitson Gas Generator relative to fuel gas.

The Rhodes Manufacturing Co.
Philadelphia,
January 12, 1891

Col. O.C. Bosbyshell,

Dear Sir

Understanding you are adjusting the question of cheap fuel gas for the Mint. I enclose you circular of The Kitson generator, from which fuel gas can be made for 3 cents per cubic feet. Will coal at 4.00 Ton. We have one here which can be used in operation some day you may wish to see it. Giving me two days notice if possible so what I can have Mr. Kitson here. We can give you price of one suitable for your purpose if you will send me word how much city gas you are using to do the same amount of work.

Very truly yours,
Chas. M. Rhodes

[Text from enclosed flier:]

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